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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/362,192	07/28/1999	SHUNPEI YAMAZAKI	0756-2011	6547

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EXAMINER	
GHYKA, ALEXANDER G	

ART UNIT	PAPER NUMBER
2812	

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/362,192	YAMAZAKI ET AL.	
	Examiner	Art Unit	
	Alexander G. Ghyka	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 45-50,52-54,56-58,60-62,64,65 and 67-72 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 45-50,52-54,56-58,60-62,64,65 and 67-72 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

ALEXANDER GHYKA
PRIMARY EXAMINER

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Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is a NON – Final rejection as the Declaration submitted on November 25, 2003 was not considered in the previous Office action. A discussion of the Declaration appears below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 45, 47, 60, 62 and 67-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyasaka ('819) in view of Makita et al.

Miyasaka teaches the method for manufacturing a semiconductor device comprising the steps of: subjecting the semiconductor film to oxygen plasma, thereby

forming a silicon oxide film on said semiconducting film; crystallizing said semiconducting film to obtain a crystalline semiconducting film. See column 24, lines 37-56.

Miyasaka differs from the presently claimed invention in that it does not disclose the step of contacting a material for promoting crystallization to at least part of the semiconducting film formed over the substrate.

Makita et al disclose introducing a metal catalyst into a film to promote crystallization. With regard to claim 47, the crystallization is done in a solid state. With regard to claims 67-72, Makita et al teach the use of Ni, Co, Pd, Pt, Cu, Ag, Au, In Sb, Sn and Al as appropriate catalysts for crystallization. See column 24, line 21.

It would have been obvious to one of ordinary skill in the art, at the time of the invention to combine the step of using a catalyst with the step of using oxygen plasma, as the use of two steps, each of which enhances crystallization, together, would further improve the overall level of crystallization. The combination of two known steps to enhance crystallization, for the benefit of enhanced crystallization is *prima facie* obvious.

Claims 46, 49-50, 52-54, 56-58, 61, 64-65 are rejected under 35 U.S.C 103(a) as being unpatentable over Miyasaka ('819) et al in view of Makita et al as applied to claim 45 above, and further in view of Miyasaka ('526).

While Miyasaka et al ('819) do not teach the step of crystallizing the semiconductor film with a laser light, such a step is taught by Miyasaka et al as known

in the art ('526). With regard to claim 49, Miyasaka et al teach the use of helium in column 6, line 64. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a laser to enhance crystallization, as lasers are known in the art to promote crystallization. The use of a known process, laser, for its known benefit, enhancing crystallization, is *prima facie* obvious.

Response to Argument

In response to applicant's argument that Applicants invention has another advantage, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). A prima facie case has been established as there is motivation in the prior art to combine the references for the benefit of enhanced crystallization.

Discussion of Rule 132 Declaration of November 25, 2003

The Declaration is limited to nickel catalysts, and as such is not commensurate is scope with the claimed invention, which calls broadly to any metal. The Declaration under Rule 132 of November 25, 2003 does not overcome the *prima facie* case of obviousness which has been established. Claims limited to nickel would overcome the rejections in view of the cited prior art references.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander G. Ghyka whose telephone number is (571) 272-1669. The examiner can normally be reached on Monday through Thursday during regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John F Niebling can be reached on (571) 272-1669. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGG
September 30, 2004

ALEXANDER GHYKA
PRIMARY EXAMINER

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